

**Notice of Allowability**

Application No.

09/805,745

Examiner

Ponnoreay Pich

Applicant(s)

CARRO ET AL.

Art Unit

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/18/2005.
2. ☒ The allowed claim(s) is/are 1-8.
3. ☒ The drawings filed on 13 March 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                              |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>2005</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                                      |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance                     |
|   | 9. <input type="checkbox"/> Other _____.   |

### **DETAILED ACTION**

Claims 1-8 have been examined. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Docketing***

Please note that the application has been redocketed to a different examiner. Please refer all future communications regarding this application to the examiner of record, using the information supplied in the final section of the office action.

#### ***Response to Arguments***

Applicant's arguments, filed 1/18/2005, with respect to claims 1-8 have been fully considered and are persuasive. The examiner withdraws the previous examiner's rejections with regards to claims 1-8.

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Thomas Beck on 4/27/2005. Please replace claims 1-8 as follow:

#### **Claim 1:**

A computer implemented method of marking an original text document said original text document comprising words separated by inter-word intervals,

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said inter-word intervals including one or more blank characters having numbers, said numbers being altered, said method of altering said numbers of said blank characters, comprising the sequence of steps of:

applying a reversible transform over said original text document in order that all said inter-word intervals become exclusively comprised of odd numbers of said blank characters;

splitting and transforming said original text document into a first subset and a second subset of said words including trailing blanks of said inter-word intervals of said words;

and over said first subset:

computing from said original text document and a secret-key, an authentication pattern that fits the number of said intervals of said first subset;

adding inter-word blank characters in positions corresponding to said authentication pattern;

generating a canonical form of said first subset;

computing, from said canonical form of said first subset and said secret-key, a blurring pattern that fits the number of said intervals of said first subset;

modifying the numbers of inter-word blank characters according to said blurring pattern;

and over said second subset:

generating canonical form of said second subset;

computing, from said canonical form of said second subset and said secret-key, a blurring pattern that fits the number of said intervals of said second subset;

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modifying the numbers of inter-word blank characters according to said blurring pattern;

recombining said first subset and said second subset

thereby, obtaining a marked text for authentication.

**Claim 2:**

A computer implemented method of authenticating a marked text document, said marked text document comprising words separated by inter-word intervals, said inter-word intervals including one or more blank characters having numbers which are checked, said method comprising checking the numbers of said blank characters utilizing the steps in sequence of:

splitting said marked text document into a first subset and a second subset of said words including trailing blanks of said inter-word intervals of said words; and over said first subset:

generating a canonical form of said first subset;

computing from said canonical form of said first subset and a secret-key a

blurring pattern that fits the number of said intervals of said fast subset;

erasing modifications brought to the numbers of said inter-word blank characters per said blurring pattern;

extracting an authentication pattern thereby,

obtaining in all said inter-word intervals, odd numbers of blank characters;

and over said second subset:

generating canonical form of said second subset;

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computing from said canonical form of said second subset and said secret-key a blurring pattern that fits the number of said intervals of said second subset; erasing modifications brought to the numbers of said inter-word blank characters per said blurring pattern thereby, obtaining in all said inter-word intervals, odd numbers of blank characters; recombining said first subset and said second subset; applying a reverse transform thus retrieving said original text document; computing from retrieved, said original text document and said secret-key an authentication pattern that fits the number of said intervals of retrieved said original text document; comparing extracted said authentication pattern and computed said authentication pattern; if matching exactly, accepting said marked text document as authentic; if not: rejecting said marked text document as fake.

**Claim 3:**

The computer implemented method defined in claim 2 wherein splitting steps includes the preliminary steps of generating a canonical form of a text document; computing, from said canonical form of said text document and said secret-key, a splitting pattern that fits the number of said intervals of said text document; thereby, allowing to split and to recombine said text document on the basis of asserted and non-asserted bits of said splitting pattern.

**Claim 4:**

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The computer implemented method defined in claim 3 wherein said authentication pattern, said blurring pattern and said splitting pattern are binary vectors comprising a number of bits matching the number of said inter-word intervals.

**Claim 5:**

The computer implemented method defined in claim 4 wherein said canonical form is obtained in stripping all blank characters, in excess of one, off said inter-word intervals.

**Claim 6:**

The computer implemented method defined in claim 5 wherein said modifying steps include:

in the positions corresponding to the asserted bits of said blurring patterns:

adding one blank character if said inter-word intervals comprise of an odd number of said blank characters; and

removing one blank character if said inter-word intervals comprise an even number of said blank characters.

**Claim 7:**

The computer implemented method defined in claim 6 wherein modifying steps and erasing steps are performed identically.

**Claim 8:**

The computer implemented method defined in claim 7 wherein extracting step includes removing one blank character in those of said inter-word intervals that are comprised of an even number of said blank characters;

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obtaining a binary authentication vector with asserted bits corresponding to positions where said blank characters were removed.

***Allowable Subject Matter***

Claim 1-8 are allowed.

The following is an examiner's statement of reasons for allowance:

**Claim 1:**

As per claim 1, the examiner could not find in the prior art teachings or suggestions wherein there was a computer implemented method of marking an original text document comprising the sequence of steps as recited in claim 1. More particularly, the examiner could not find teachings of "applying a reversible transform over said original text document in order that all said inter-word intervals become exclusively comprised of *odd* number of said blank characters." The examiner notes that Bender teaches hiding data in text using white spaces, but Beck did not get as specific as applying a transform on the text wherein the inter-word intervals of the text then become comprised of *odd* number of blank characters.

**Claim 2:**

As per claim 2, the examiner was not able to find in the prior art teachings or suggestions of a method in sequence of the steps recited in claim 2. More particularly, the examiner was not able to find teachings wherein one of the steps was to erase modifications brought to the number of said inter-word blank

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characters per said blurring pattern, extracting an authentication pattern thereby obtaining in all said inter-word intervals, *odd* numbers of blank characters.

**Claims 3-8:**

Claims 3-8 depend from claim 2.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ponnoreay Pich whose telephone number is 571-272-7962. The examiner can normally be reached on 8:00am-4:30pm Mon-Fri.

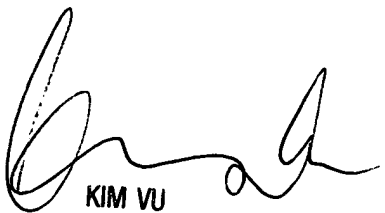
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PP



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